In the claims:

1. (Currently amended) A method for cleaning a measuring element (1), wherein a gas flow (12) flows around the measuring element (1), wherein the measuring element (1) is accommodated in an intake apparatus (30) of an internal combustion engine and is made from a thin membranous material (5), the measuring element (1) including at least one heatable element (6, 7, 8; 10, 11) and wherein the membranous material (5) is arranged in a manner that allows the membranous material (5) to vibrate, the method comprising:

initiating a periodic delivery of current (41, 42) in intervals to the at least one heatable element (6, 7, 8; 10, 11) on the measuring element by means of a control apparatus (20) or a switching (22) of the measuring element (1) or exciting the membranous material (5) into vibrations ~~by means of special vibration exciters or an ultrasonic coupling~~.

2. (Original) The method according to claim 1, wherein the periodic delivery of current (41, 42) in intervals to the at least one heatable element (6, 7, 8; 10, 11) takes place by means of sequential switching on and off (21) of the control apparatus (20).

3. (Original) The method according to claim 1, wherein the periodic delivery of current (41, 42) in intervals to all elements (6, 7, 8; 10, 11) of the measuring element (1) that can be supplied with current takes place by means of sequential switching on and off (21) of the control apparatus.

4. (Original) The method according to claim 1, wherein the periodic delivery of current (41, 42) in intervals to the at least one heatable element (6, 7, 8; 10, 11) of the measuring element (1) affects an acceleration (19) in a direction of surface normals (4) on the membranous material (5), based on an internal heat expansion ratio over various local heating expansion coefficients of the membranous material (5).

5. (Currently amended) The method according to claim 1, wherein ~~the~~ sensor-specific switching (22a, 22b) is activated in a control apparatus coastdown after turning off the internal combustion engine and is utilized during this period for cleaning of the membranous material (5).

6. (Currently amended) The method according to claim 1, wherein by means of ~~the~~ sensor-specific switching (22), an activation of the periodic delivery of current (41, 42) in intervals to the at least one heatable

element (6, 7, 8; 10, 11) of the measuring element takes place in predetermined time intervals.

7. (Original) The method according to claim 1, wherein the periodic delivery of current (41, 42) in intervals takes place in the control apparatus (20) by means of a voltage modulator (23).

8. (Currently amended) The method according to claim 1, wherein the periodic delivery of current (41, 42) in intervals is produced by means of a voltage modulator (23) arranged in ~~the~~ sensor-specific switching (22) of the measuring element (1).

9. (Original) The method according to claim 1, wherein the periodic delivery of current (41, 42) in intervals is produced in the control apparatus (20) by means of a frequency generator (24).

10. (Currently amended) The method according to claim 1, wherein the periodic delivery of current (41, 42) in intervals is produced by means of a frequency generator integrated in ~~the~~ sensor-specific switching (22).

11. (Original) The method according to claim 1, wherein by means of the periodic delivery of current (41, 42) in intervals of the at least one heatable element (6, 7, 8; 10, 11) or all conducting paths of the measuring element (1), leaps in temperature in the membranous material (5) accommodated in the measuring element are produced.

12. (Currently amended) The method according to claim 11, wherein the temperature leaps occurring in a temporal interval of less then milliseconds make possible excitation frequencies of the membranous material (5) of ~~many hundred~~hundreds kHz.

13. (Original) The method according to claim 12, wherein the temperature leaps in the membranous material (5) occurring in a temporal interval of less than milliseconds produce maximum vibration amplitudes with a resonance frequency of 200 kHz.

14. (Original) The method according to claim 1, wherein current delivery intervals (40) of the at least one heatable element (6, 7, 8; 10, 11) take place with a constant heat flow level (43) and have a first duration (41).

15. (Original) The method according to claim 1, wherein current delivery intervals (40) of the at least one heatable element (6, 7, 8; 10, 11) of the measuring element (1) are interrupted by shut-down intervals, wherein a duration (42) of the shut-down intervals exceeds a duration (41) of the current delivery intervals (40).

16. (Original) The method according to claim 1, wherein within a heating zone (36) of the measuring element (1), excess temperatures of 180°C relative to an ambient temperature are produced.